



Course Title: **Compilers and Languages**  
(First term)

Course Code: CCE3113 3<sup>rd</sup> year  
Allowed time: 15 minutes

**Student Name:**

**Section No.:**

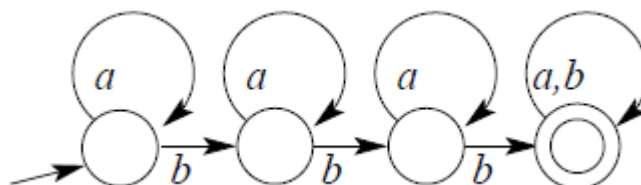
**Quiz1**

**(10 marks)**

1. Design a finite state automaton that will recognize

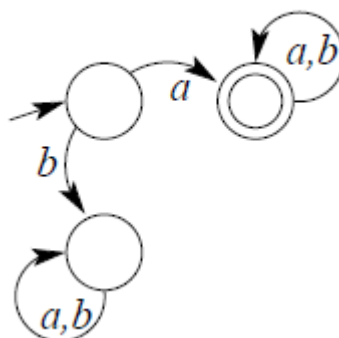
A) The language of all strings containing only a's and b's where there are at least 3 b's

*Answer*

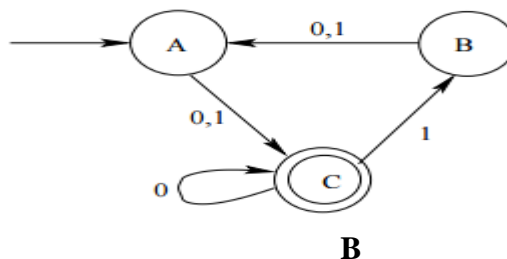
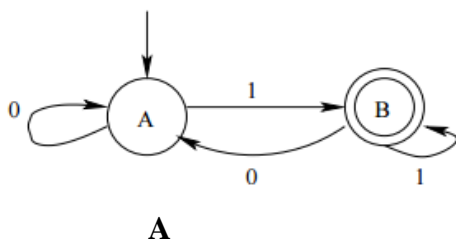


B) The language of all strings containing only a's and b's that begin in a.

*Answer*



2. Find regular expressions for each of the following languages recognized by the following machines



*Answer*

A.  $(0+1)^*1$

B.  $(0+1)(0+1(0+1)(0+1))^*$

*Dr. Sherin El Gokhy*  
*Best wishes*